

NOTES ON SOME
ACUTE SPECIFIC FEVERS



SACRIFICE TO SALUS

A. D. c. 100-200

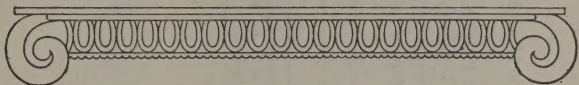
BURROUGHS WELLCOME & CO.

SALUS

SALUS, who corresponds very closely to the Greek Hygieia, was to the Romans the symbol of the *mens sana in corpore sano*. Realising the importance of personal cleanliness, rich and poor alike bathed every day, before the principal meal, in the public baths, of which 1800 were founded in Rome between 344 B.C. and A.D. 180. The Romans paid great attention to the quality and purity of their drinking water, filtering it when necessary through porous stones or earth, and avoiding stagnant water. They understood the value of boiling their drinking water in certain circumstances. Pliny says: "It was the Emperor Nero's invention to boil water and then enclose it in glass vessels and cool it in snow"; but Galen believes that Hippokrates knew this method. Aristotle was certainly acquainted with it. The Romans employed baths of many kinds, not only for curative purposes, but to maintain the body in health. Gymnastics and games played a large part in their lives, both in education and for relaxation; their use in adolescence was understood and full advantage was taken of this knowledge. Massage was widely used; it was often prescribed in cases of insomnia. Græco-Roman sewers and drains were well-planned and efficient. As early as c. 450 B.C. we find (in the XII Tables) the enactment: "A dead man shall not be buried or cremated within the city."



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IN THE following pages it is aimed to give, in a concise form, the essential facts regarding isolation, quarantine and incubation periods, and the modes of transmission of some of the commoner infectious diseases.

A suggestion as to the general treatment of the patient is given where the character of the disease needs some special care. Under each disease are noted the symptoms special to the condition, and appropriate therapeutic measures are indicated.

Particular attention is directed to the illustrations of the Schick Test Reaction on *page 3 of cover* and to the explanatory text on *pages 43 and 44*.

It is hoped that the various opinions indicated in the composite table of incubation and quarantine periods, which is given on *pages 2-7*, will be found useful to practitioners.

INCUBATION AND QUARANTINE PERIODS

BASED ON THE FOLLOWING AUTHORITIES

A—"Memorandum on Closure of and Exclusion from School" (issued jointly by the Ministry of Health and the Board of Education).

B—"A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools" (Eighth Edition, issued by The Medical Officers of Schools' Association, published by J. & A. Churchill, London).

C—"Infectious Diseases" (Third Edition, by E. W. Goodall, published by H. K. Lewis, London).

D—"Barrier Charts for Health Officers," by S. H. Daukes (published for the Wellcome Bureau of Scientific Research by Baillière, Tindall & Cox, London).

Disease	Authority	Incubation	Quarantine	
			Patients	Contacts
SCARLET FEVER	A	1-8 days	Two weeks after return from hospital, or in the case of patients treated at home, two weeks after release from isolation.	One week after removal of patient to hospital, or, in the case of patients at home, one week after release from isolation.
	B	1-8 days	For not less than four weeks from the date of the appearance of the rash, until convalescence is completed and there is no sore throat, discharge from the ear or nose, suppurating or recently enlarged glands, or eczematous patches.	10 days
	C	3 days (2-6)	For four or five weeks in mild cases; but for a longer period up to 12 weeks in severe cases and in cases where a mucopurulent discharge from the nose or ears persists. After four weeks the presence of desquamation may be neglected.	6 days

DIPH- THERIA	D	1-8 days (usually 3-5 days)	During persistence of morbid discharges, but never less than four weeks.	10 days	Two weeks after removal of patient to hospital, or, in the case of patients treated at home, ten days after release from isolation. Negative swabs should be obtained.
	A	2-10 days	Two to three weeks after end of attack; or until pronounced free from infection by a medical practitioner.		
	B	2-10 days	In no case for less than four weeks, and until convalescence is completed, so that there is no longer any sore throat, or any abnormal discharge from the throat, nose, ears, or eyes, no cutaneous pustulation and no albuminuria, and that at least three successive bacteriological examinations of the pharyngeal and nasal mucus for the specific bacillus, made at intervals of not less than two days, have been attended with negative results, each examination having been made not less than three hours after the discontinuance of local antiseptic applications.		When a bacteriological examination of the throat and nasal mucus has been carried out with negative results on three successive occasions, at intervals of two days, no antiseptic applications having been made to the throat or nose for at least three hours before taking the swab. A similar rule applies to every nurse who has been attending on a case of diphtheria, and a like procedure should be followed before she resumes her ordinary duties. The diphtheria bacilli harboured by "carriers" are often found to be avirulent when tested on guinea-pigs. Such carriers may then be considered innocuous. During an epidemic the Schick test will indicate susceptible persons, who can then be almost permanently protected against attack by the use of toxin-antitoxin.
	C	2 days (1-5)	Until at least two consecutive cultures from the affected parts, taken at two or three days' interval, have proved negative.	6 days	

INCUBATION AND QUARANTINE PERIODS (continued)

Disease	Authority	Incubation	Quarantine	
			Patients	Contacts
DIPH- THERIA (continued)	D	2-10 days	So long as virulent organisms are present in discharges (2 negative swabs and toxicity tests).	Depends on bacteriological examination.
	A	7-14 days	Three weeks from date of appearance of rash.	Infants, and other children who have not had the disease, three weeks from date of onset of last case in house.
	B	10-14 days	For not less than two weeks from the date of appearance of the rash, convalescence being satisfactorily established.	16 days.
MEASLES (Morbilli)	C	Commonly 10-17 days (7-21)	14 days from appearance of rash.	21 days.
	D	7-18 days (usually 14 days)	During persistence of morbid discharges.	7th to 16th day for non-immunes.
	A	5-21 days	One week from date of appearance of rash.	Infants, and other children who have not had the disease, three weeks from date of last exposure to patient with rash.

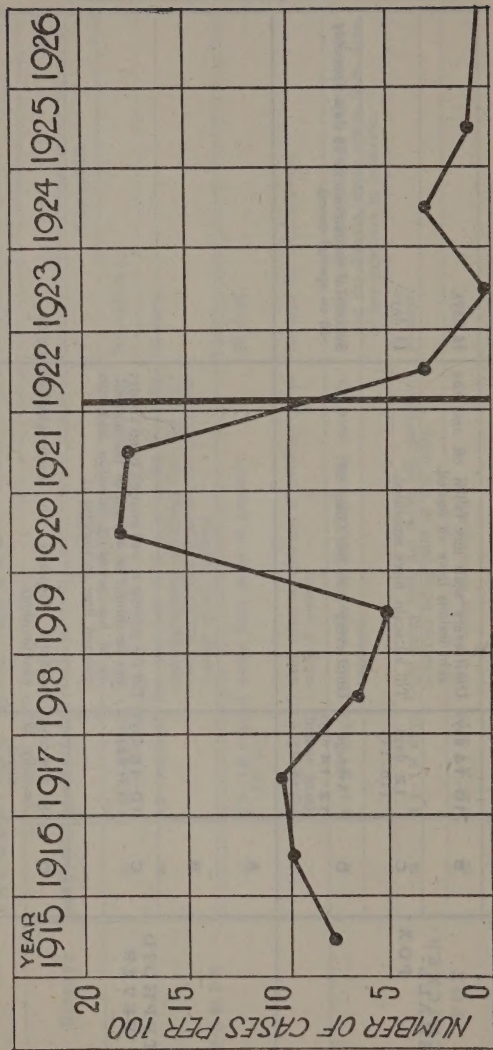
RUBELLA (German Measles)	B	9-18 days	For not less than seven days from the date of the appearance of the rash, provided there is no persistence of nasal or other symptoms.	20 days.
	C	15-18 days (10-21)	7 days from appearance of rash.	21 days.
	D	7-20 days	Not less than 7 days from appearance of the rash.	(?) 7th to 22nd day for non-immunes.
	A	6-18 days	Six weeks from commencement of cough.	Infants only, for six weeks from date of onset of last case, or three weeks from date of last exposure to infection.
WHOOPING COUGH	B	7-19 days	Until the characteristic spasmodic cough and the whooping have ceased for at least two weeks; or in cases of persistent whooping, for not less than four weeks from the commencement of the spasmodic cough.	21 days.
	C	5-14 days (5-21)	Four weeks.	21 days.
	D	7-14 days	4 weeks from onset of catarrhal symptoms.	16 days for non-immunes.

INCUBATION AND QUARANTINE PERIODS (continued)

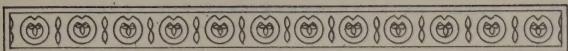
Disease	Authority	Incubation	Quarantine	
			Patients	Contacts
MUMPS	A	12-23 days	Until one week after subsidence of swelling.	No exclusion.
	B	14-23 days	For not less than two weeks from the commencement—provided that one clear week has elapsed since the complete subsidence of all swelling.	24 days.
	C	17-19 days (13-25)	2 weeks from onset of parotitis.	25 days.
	D	10-22 days	1 week after subsidence of swelling (minimum 3 weeks).	22 days for non-immunes.
	A	11-21 days	Three weeks, or until all scabs have disappeared.	Infants, and other children who have not had the disease, three weeks from date of last exposure to infection.
CHICKEN-POX	B	11-19 days	Until every scab has fallen off, particular attention being paid to the scalp.	20 days.
	C	12-21 days	Till all scabs have separated.	21 days.
	D	Average 12-14 days (may extend to 21)	Until every scab has fallen off.	(? 18 days).

SMALL-POX	A	10-14 days, but usually 12 days	Six weeks, or until the patient is certified free from infection by a medical practi- tioner.	Sixteen days, unless recently vaccinated, when exclusion is unnecessary.
	B	10-14 days	Until every scab has fallen off and the skin lesions have all healed.	16 days.
	C	12 days (10-14)	Till all scabs have separated.	15 days.
	D	Average 12-14 days (may extend to 21)	Until every scab has fallen off.	Successful vaccination or 16 days (possibly 23 in special cases).
TYPHOID FEVER	A			
	B			
	C	10-15 days (5-28)	Till the patient is well enough to go about; but he should be warned of the possibi- lity of his spreading infection and also directed how to prevent it.	
	D	5-23 days (usually 12 days)	Indefinite (depends on bacteriological examination).	

EFFECT OF ACTIVE IMMUNISATION IN PREVENTION OF DIPHTHERIA



The above Chart shows the effect of active immunisation in prevention of Diphtheria amongst the staff of a large isolation hospital. Schick-testing and active immunisation commenced in the early part of 1922, since which date there have been seven cases only of diphtheria in four years amongst the protected staff.



DIPHTHERIA

INFECTION

Infection is usually by *direct contact* with a "case" or a carrier. The organisms reside in the secretions from the nose and throat, in detached threads of false membrane and at times in discharges from the ears, the vulva, infected wounds or skin lesions. Carriers may be healthy contacts who have never shown symptoms, or may be convalescent patients who have recovered clinically, but who harbour the bacilli in the throat. The presence of bacilli in the throat secretions of carriers is apt to be intermittent.

Carriers

Transmission does not take place by water, nor is the infection air-borne. The diphtheria bacillus readily grows in milk and produces no suspicious changes. Thus milk has been the means of spreading infection in many outbreaks. The diphtheria of pigeons, calves and other animals has not proved communicable to man and is due to a different organism, but cats have been suspected of conveying human diphtheritic infection.

ISOLATION

The period of isolation is determined by the persistence of the bacilli in the throat and nose. In some hospitals it is the practice to consider the patient infective until three successive swabs taken on different days give negative results (48 hours should elapse between the application of any disinfectant to the throat and the taking of a swab). Some authorities rely upon the complete

recovery of the patient from all clinical symptoms of the disease rather than upon bacteriological methods to determine the period of absolute isolation (not less than four weeks).

Tests

In view of the debility left by an attack, return to complete activity is deferred for at least two or three weeks after release from isolation.

QUARANTINE

The period of quarantine for contacts is 10 to 14 days. If swabs from contacts show bacilli "bacteriologically positive," a test for virulence should be made before suggesting any restrictions of liberty. Non-virulent bacilli may be considered as "negative."

INCUBATION PERIOD

The incubation period of diphtheria may not exceed 24 hours. Commonly, it is three or four days, but it may be as long as 10 days.

IMMUNITY

Relapses and second attacks are met with, but are rare. In institutions in which different infectious diseases are treated, patients during convalescence from diphtheria may contract other diseases. Similarly, convalescents from other common infectious diseases may become infected with diphtheria.

Among the most notable of the advances recorded in recent years is the SCHICK TEST for determining whether individuals are susceptible or immune to diphtheria.

A test injection is made into one arm and a control injection into the other, and, according to the nature of the reaction, it is possible to determine, with a marked degree of accuracy, whether the subject is immune or susceptible to infection. Patients admitted to hospital, suffering from diphtheria, are practically invariably positive to the Schick test (*see illustration inside back cover*). Further, in the case of persons subject to diphtheria, it is possible, by injecting diphtheria prophylactic, to secure a high percentage of immunity, as is shown by the Chart on page 8.

Schick
test

TREATMENT

The most important factor in the treatment of diphtheria is the prompt administration of serum. Each day the first dose is postponed the chances of a fatal termination increase. The result of bacteriological examination of swabs should not be waited for, but directly there is reason to suspect diphtheria an adequate dose of diphtheria antitoxin should be administered. In moderate cases, the dose should be from 8000 to 12,000 units of 'Wellcome' Diphtheria Antitoxin-Serum, and in severe cases, 20,000 to 30,000 units, given intramuscularly. In the absence of improvement within 12 to 24 hours, the dose may be repeated if desired. In severe cases, intravenous injection should be adopted. Doses much less than the above may be considered sufficient in mild cases. A dose of 1500 to 2000 units of 'Wellcome' Diphtheria Antitoxin-Serum may be given to contacts to obtain immediate passive immunity.

Serum

The following tables of dosage for Diphtheria Antitoxin-Serum are quoted from the monograph on

Diphtheria published by the Medical Research Council:—

(PARK, 1921)

Antitoxin Units to be given in the Various Types of Cases

	Mild cases	Early moderate	Late moderate and early severe	Severe and malignant
Infants 10-30 lb. in weight; under 2 years.	2000-3000	3000-5000	5000-10,000	7500-10,000
Children 30-90 lb. in weight; under 15 years.	3000-4000	4000-10,000	10,000-15,000	10,000-20,000
Adults 90 lb. and over in weight.	3000-5000	5000-10,000	10,000-20,000	20,000-50,000
Method of administration advised.	Intra-muscular	Intra-muscular	Intra-venous	Intra-venous

(THOMSON, 1921)

Antitoxin Units to be given in Various Cases

	If treated on 1st day	until 2nd day	If untreated until 3rd day	until 4th day or later
Mild faucial	6000	6000	8000	10,000
Moderate	10,000	12,000	14,000	16,000
Severe, severe faucial, and laryngeal.. ..	20,000	24,000	30,000	30,000
Very severe faucial ..	30,000	40,000	50,000	50,000
Laryngeal only	18,000	18,000	18,000	18,000
Nasal only, but with membrane	6000	6000	8000	10,000
Conjunctival only ..				

The authors of the monograph state:—

“These tables may be taken as embodying a system of dosage which adequately represents modern scientific knowledge and clinical experience. Even larger doses, however, than those recommended in the tables are now given in some institutions.”

From the moment the disease is diagnosed the patient must be kept in the recumbent position and all exertion scrupulously avoided.

The patient must not feed himself or perform even the slightest act of muscular exertion.

Nursing

The severity of the original infection and the condition of the heart after the acute stage determine the length of time the patient is kept in the recumbent position. In mild cases, with little or no membranous exudation, the patient may be raised in bed by rapid stages after 14 days if the condition of the heart is satisfactory. In moderate cases, four weeks' complete rest is usually necessary, but in severe infections, in which the incidence of dangerous paralysis occurs in the sixth week, a longer period is enforced.

Care of the bowels is important in diphtheria, and for this purpose 'Tabloid' Grey Powder or 'Tabloid' Calomel may be used and are tolerated well by children. In adults, 'Tabloid' Dover Powder may be found necessary to assist sleep. The throat should be kept as clean as possible and, during the acute stages, frequent swabbing with 'Soloid' (Nasal) Sodium Bicarbonate Compound may be employed. In septic throats copious douching and syringing with 'Soloid' (Nasal) Phenol Compound will be found effective. The same medicament is especially suitable for nasal cases. When there is much hæmorrhage the local application of 'Wellcome' Solution of Adrenalin (1 in 1000) may be of value. For the treatment of enlarged glands, fomentations of a 1 in 60 to 1 in 80 lotion of 'Soloid' Carbolic Acid are applied.

Local
conditions

Circulatory failure is treated by removing the pillows, raising the foot of the bed and applying a binder to the abdomen. The patient is not fed by the mouth, but a 5 per cent. solution of glucose in normal saline should be given by rectum. 'Soloid'

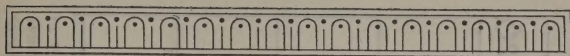
Circulatory failure Sodium Chloride or 'Soloid' Saline Compound is a convenient method of preparing sterile normal saline solutions. 'Soloid' Sodium Bicarbonate may be added to the rectal injection with advantage. A combination of atropine, strychnine and adrenalin has a reputation as a circulatory stimulant in these cases.

'Tabloid' Hypodermic Atropine Sulphate, gr. 1/200, 'Tabloid' Hypodermic Strychnine Sulphate, gr. 1/100, one of each, dissolved in 5 minims of 'Wellcome' Adrenalin Solution (1 in 1000), made up to 10 minims with sterile water, may be injected subcutaneously every four hours or oftener if necessary.

In these cases 'Tabloid' Ephedrine Hydrochloride is clearly indicated for its sustained adrenalin-like action.

In later stages and during convalescence, strychnine, iron and quinine are medicaments of value and their administration is facilitated by 'Tabloid' Easton Syrup. 'Kepler' Cod Liver Oil with Malt Extract and Chemical Food should also be added to the dietary.

A list of products, with details of strengths and packings, will be found on pages 35-42



SCARLET FEVER

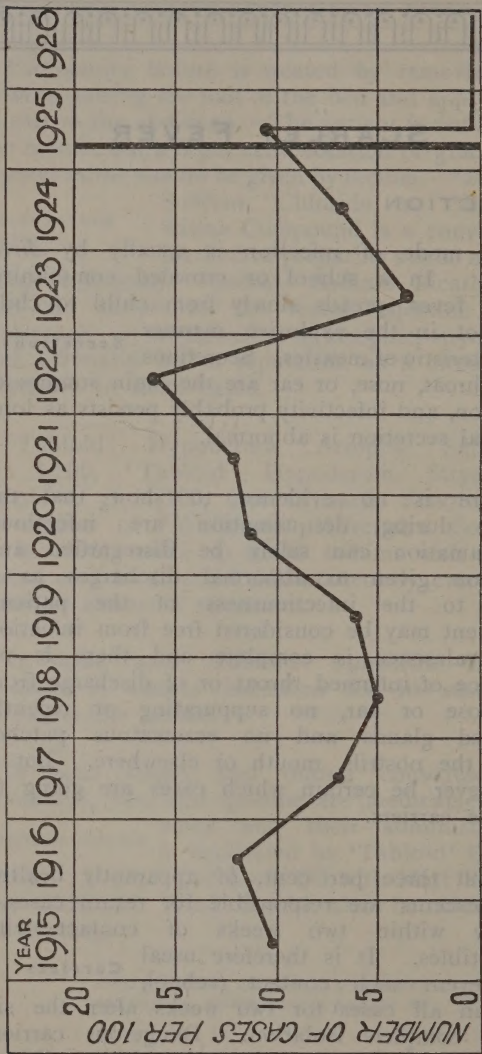
INFECTION

The mode of infection is usually by *direct contact*. In a school or crowded community, scarlet fever spreads slowly from child to child and not in the explosive manner characteristic of measles. Secretions from throat, nose, or ear are the main sources of infection, and infectivity probably persists as long as nasal secretion is abnormal.

There is no evidence to show that the scales during desquamation are infectious. Desquamation can safely be disregarded and attention given to abnormal discharges as a guide to the infectiousness of the patient. A patient may be considered free from infection if convalescence is complete and there is no evidence of inflamed throat or of discharge from the nose or ear, no suppurating or recently enlarged glands and no eczematous patches about the nostrils, mouth or elsewhere. But it can never be certain which cases are going to become carriers.

About three per cent. of apparently healthy convalescents are responsible for return cases—usually within two weeks of contact with susceptibles. It is therefore usual to prevent such contact (school, etc.) in all cases for two weeks after the six weeks' complete isolation. Dangerous carriers are often characterised by unhealthy conditions

EFFECT OF ACTIVE IMMUNISATION IN PREVENTION OF SCARLET FEVER



The above Chart shows the effect of active immunisation in the prevention of Scarlet Fever amongst the staff of a large isolation hospital. The disease was in epidemic form in 1921 and 1925-1926. Dick-testing and active immunisation was commenced in the first half of 1925, after which date there has been no case of Scarlet Fever amongst the protected staff.

of the nose, discharge from which has reappeared owing to the supervention of a "cold."

Scarlet fever may be conveyed by infected clothes and other articles for long distances and over a long period of time—certainly several months. Infection is not borne by air. Water is never responsible, but milk-borne infection has occurred. Intermediary carriers have on occasions been observed to spread the disease without themselves showing signs of infection.

ISOLATION

Infectivity occasionally persists very long in scarlet fever, and it is not possible to say with certainty that a patient is free from infection whether he has completely desquamated or not. The patient should be isolated for six weeks at least from the appearance of the rash, and longer if discharges continue from ear, nose, or throat. Patients with persistent tonsillitis, or rhinorrhœa should be isolated, if possible, until these conditions are cured.

QUARANTINE

The period of quarantine for susceptible contacts is usually seven days from day of disinfection subsequent to removal of patient. Careful disinfection of room, clothes and other articles is necessary after scarlet fever.

INCUBATION PERIOD

The incubation period of scarlet fever is one to eight days, usually three to four days.

IMMUNITY

One attack usually protects for life, but second attacks are met with. Susceptibility is greatest in children. The Dick reaction is used to determine susceptibility, a negative reaction indicating a fairly high degree of immunity.

TREATMENT

Frequent sponging of the skin may be followed once or twice a day by inunction with 'Eucalyptia.' In the early stages a simple diaphoretic mixture is supplemented by 'Tabloid' Aspirin. Insomnia must be promptly treated. For adults, 'Tabloid' Dover Powder and 'Tabloid' Phenacetin is a very effective combination, and in severe cases 'Tabloid' Veronal may be tried. For children, 'Tabloid' Sodium Bromide and 'Tabloid' Chloral Hydrate, or paraldehyde, are preferred.

In mild cases the throat needs little attention, but in young children the fauces may be swabbed with a solution of 'Soloid' (Nasal) Sodium Bicarbonate Compound. In more severe throats, swabbing should be more energetic and a solution of 'Soloid' (Nasal) Phenol Compound may be used. A spray of the latter medicament may be used systematically in the initial stages when isolation is imperfect.

The mouth must in all cases be kept scrupulously clean, and for this purpose sprays or gargles, or swabbing with a solution of 'Soloid' (Nasal) Phenol Compound may be adopted.

If nephritis supervenes the patient should be placed in blankets with several hot water bottles

and a full dose of 'Tabloid' Jalap given. In later stages of nephritis, when a fuller diet is given, iron should be administered, as 'Tabloid' Iron and Arsenic Compound or 'Tabloid' Reduced Iron and Rhubarb Compound. In cases of arthritis, 'Menthofax' gives great relief to a painful joint if applied spread on lint.

It is advisable to enforce rest in bed for three weeks at least. Nephritis occurs in about 5 per cent. of cases, usually at the end of the third week.

In all cases 'Wellcome' Concentrated Scarlet Fever Antitoxin-Globulins should be given at the earliest possible moment. Not less than 20 c.c. should be given to severe cases, 10 c.c. where it is thought advisable to treat mild cases, and from 20 c.c. to 50 c.c. to very severe cases. The serum is given intra-
muscularly in ordinary cases, and intravenously in very urgent cases. The susceptibility of contacts may be determined by the Dick test, for which is used 'Wellcome' Diluted Scarlet Fever Toxin (Test and Control). Active immunisation of susceptibles is effectively carried out by the use of 'Wellcome' Scarlet Fever Prophylactic. A dose of 4 to 5 c.c. of 'Wellcome' Concentrated Scarlet Fever Antitoxin-Globulins may be given immediately to all contacts to obtain temporary passive immunity.

The diagnosis of doubtful cases of scarlet fever may be confirmed by 'Wellcome' Schultz-Charlton Test Solution.



ENTERIC FEVER

TYPHOID AND PARATYPHOID

THERE is little clinical distinction between infections due to *B. typhosus* and those due to one of the paratyphoid group.

INFECTION

Direct contagion plays a small part in the causation of epidemics, but assumes importance in causing localised series of cases, infection being conveyed by fæces, urine and other discharges. The chief danger arises from mild and unrecognised cases and carriers.

Of indirect causes, contamination of water supply is the usual cause of large epidemics. Milk and other articles of food may act as vehicles by becoming infected by a carrier or by water. The bacillus has been found alive in oysters and other shell-fish living in sewage-contaminated water. It may survive for a considerable time in ice and in salt or fresh water. It resists ordinary drying, and therefore the infection may be carried by dust and articles soiled by typhoid excreta. Flies may be active agents in the spread of the disease. Carriers may continue to pass bacilli in the stools for months or years. They may be quite healthy or they may manifest periodic bowel disturbances, or symptoms referable to the gall-bladder. Women form the majority of chronic carriers. Urinary carriers are much less common than intestinal carriers, the bacilluria of typhoid being, as a rule, quite transitory. The endemic occurrence of typhoid in certain areas is due to the influence of human carriers rather than to the persistence of infection in soil or water.

ISOLATION

Isolation need not be of the rigid type, provided adequate disinfection of the excreta is carried out. The stools and urine should be mixed with an equal bulk of a 1 in 20 solution of crude carbolic acid and allowed to stand for at least an hour. Equally essential is the disinfection of bed-linen, feeding utensils and instruments. It should be remembered that typhoid acquired by contact is a disease conveyed by unclean hands, and the hands of all attendants should be vigorously washed and not merely immersed in disinfectant.

Convalescence is usually established about three weeks after the temperature is normal. In the majority of cases the bacilli rapidly disappear from the excreta, but bacteriological examination several times repeated affords the only certain proof of safety. About 5 per cent. of those attacked become carriers.

QUARANTINE

There is no reason to impose quarantine on contacts, but they should be watched carefully for early signs of infection.

INCUBATION

The incubation period is 10 to 14 days, but may be as short as five days or as long as three weeks.

IMMUNITY

The disease is rare in infants and in old age. It may occur in children, but the greatest susceptibility is between 20 and 25 years. One attack confers lifelong immunity, although second or third attacks have been reported.

TREATMENT

Skilled nursing is of extreme importance, and once in bed the patient must be kept strictly in the recumbent position.

The toilet of the mouth should be scrupulously attended to. All sordes are carefully cleaned from the teeth and gums and the whole cavity of the mouth scrubbed at least twice a day with 'Soloid' (Nasal) Sodium Bicarbonate Compound or 'Soloid' (Nasal) Phenol Compound. This may be followed by inunction with 'Borofax.'

Diet should be given, with a rapid increase when appetite returns. The milk should be given in definite quantities at definite intervals and not left by the bedside. Three ounces of milk every two hours is usually sufficient for an adult. About one pint of beef tea, divided into three portions, may be added in 24 hours. To the simple milk diet it is an advantage to add a malt preparation, and for this purpose 'Kepler' Malt Extract is of outstanding merit. 'Kepler' Malt Extract may be added to the milk in the early stages and later added to thin oat-flour porridge. If intestinal hæmorrhage supervenes the diet must be considerably reduced, and 'Wellcome' Normal Horse Serum injected subcutaneously. If opiates are considered necessary, 'Tabloid' Hypodermic Morphine Hydrochloride may be used. In collapse, saline injections should be given. 'Soloid' Sodium Chloride or 'Soloid' Saline Compound provide convenient means of making sterile isotonic saline solutions. Injections of 'Hypoloid' Camphor should be given.

If a system of treatment which includes intestinal disinfectants be favoured, then 'Tabloid' Salol, 'Tabloid' Beta-naphthol, 'Tabloid' Benzo-naphthol and 'Tabloid' Guaiacol Carbonate

are preparations of great excellence. All these medicaments act favourably on the meteorism and diarrhoea. Alternately, doses of 'Tabloid' Calomel may be given every second or third day, and large doses of liquid paraffin in the form of 'Paroleine' are given three or four times a day.

The long convalescence after typhoid fever is a period in which 'Kepler' Cod Liver Oil and 'Tabloid' Iron and Arsenic Compound are medicaments of great value, and their administration results in a rapid return of appetite and early recovery from the state of lowered metabolism.

In cases which have been diagnosed early, reports have been received of benefit from the administration of 'Wellcome' Anti-typhoid Serum.

Fear of the production of a "negative phase" with lowered resistance has, in the past, sometimes prevented the use of anti-typhoid vaccine during the prevalence of an epidemic. This vaccine has, however, been used in numerous instances during actual epidemics, and has been given to nurses in attendance on typhoid fever cases without any evidence of lowered resistance resulting. The harmless injection of the vaccine into typhoid fever patients also lends support to the view that it is safe to use anti-typhoid vaccine during epidemics. Anti-typhoid vaccine has been used as a curative agent in typhoid fever, and good results have been claimed by using, at intervals of from four to seven days, a dose of 100-300 million organisms of 'Wellcome' Anti-typhoid-paratyphoid Vaccine (T.A.B.).

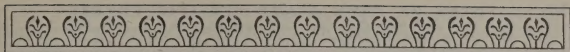
The efficiency of anti-typhoid vaccine in prophylaxis is the best established of all facts concerning the use of bacterial vaccines. Its importance in this respect is amply confirmed by the experience

of the military medical services of all the Great Powers of Europe during the late war. Under the influence of anti-typhoid inoculation, typhoid fever, instead of being, as in every previous war, one of the most common and most fatal of war diseases, became comparatively rare and unimportant. The vaccine is administered hypodermically, with the usual aseptic precautions. To secure immunisation, two doses should be given, with an interval of 7 to 10 days between them. The first dose of 'Wellcome' Anti-typhoid-paratyphoid Vaccine (T.A.B.) should consist of 500 million bacteria, and the second of 1000 million bacteria. Some authorities recommend a third dose of 2000 million bacteria.

The first injection, and to a less degree the later ones, may be followed by both local and constitutional symptoms. The local symptoms—consisting of redness, swelling, pain and tenderness at the site of injection—begin to appear in two or three hours. Some writers have claimed that these symptoms may be mitigated to some extent by the administration of 'Tabloid' Calcium Lactate, gr. 30 to gr. 40. Constitutional symptoms—malaise, nausea, headache, etc.—usually disappear within 36 hours. If they are marked, the patient should be kept in bed for a day after the injection. If the vaccine be given about four o'clock in the afternoon, the reaction will appear during the night and be less likely to upset the patient.

The protection conferred by anti-typhoid vaccine is not absolute, but is very considerable for a period of two or three years.

A list of products, with details of strengths and packings, will be found on pages 35-42



WHOOPING COUGH

INFECTION

Persons of all ages are susceptible to the infection, but the chief incidence is from 1 to 10 years, largely under six years. Infants are frequently attacked and the mortality under 12 months is great. One attack protects.

The mode of infection is almost entirely direct and a short exposure may be sufficient. The mucous droplets expelled some distance during a paroxysm are infectious. The infection may also on occasion be conveyed by clothes and other articles, since the virus can resist drying for several weeks. Cats and dogs are susceptible to the disease and may transmit the infection.

Mode
of
infection

ISOLATION

The patient must be isolated for at least five weeks from the commencement of the whoop, provided the whoop has ceased for 14 days and the paroxysmal cough has ceased to be frequent. Infectivity is greatest during the catarrhal and early paroxysmal stage. Disinfection of rooms and clothing is desirable.

INCUBATION PERIOD

The incubation period is difficult to fix owing to the insidious nature of the onset, but it is usually within 14 days, yet extremes of six days and 21 days are met with.

QUARANTINE

Contacts, unless immune, must be isolated for 21 days.

TREATMENT

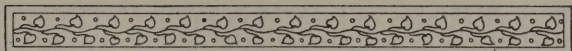
As in measles, the respiratory complications are reduced if the disease is diagnosed early and the patient confined to bed in the catarrhal stage. After the whoop has developed, provided there is no pyrexia, the patient may be allowed to rise. Free ventilation and fresh air is essential.

The cough may be eased by 'Tabloid' Ipecacuanha and Squill, and 'Tabloid' 'Empirin' Compound meets with success in modifying the severity of the cough in older patients. As an antispasmodic, belladonna may be pushed freely in all children. 'Tabloid' Belladonna

Cough Tincture may conveniently be combined with 'Tabloid' Sodium Bromide or 'Tabloid' Antipyrine, the sedative action of the combination being especially evident when the patient's rest is broken at night. Relief in severe and repeated paroxysms is often obtained by the inhalations of 'Vaporole' Chloroform and Ethyl Iodide Compound. The beneficial action of quinine is evident in the later stages when 'Tabloid' Quinine Bisulphate is a medicament of great value.

The sedative action of 'Tabloid' Chloral Hydrate is useful in many cases and is indicated especially in the convulsions of infants. During convalescence, 'Tabloid' Iron and Quinine Citrate, together with 'Kepler' Cod Liver Oil with Malt Extract, will be found to be an ideal combination in promoting rapid recovery.

A list of products, with details of strengths and packings, will be found on pages 35-42



MUMPS

INFECTION

Infection is by direct contact often after very short exposure, but articles freshly soiled with secretions from mouth, or possibly nose, sometimes convey infection. Outbreaks are generally localised and are often limited to particular schools, business houses or barracks.

ISOLATION

The minimum total period of isolation is three weeks, provided the swelling has subsided one week previously.

QUARANTINE

Contacts may with advantage be quarantined for 26 days unless they have previously had the disease. If the first exposure to infection can *definitely* be determined, it is safe to begin quarantine 10 days from that date. But, owing to the character and long incubation period of the disease, exclusion from school is often confined to the patient.

INCUBATION PERIOD

The incubation period is commonly 21 days, but extremes of 12 days and 26 days are met with.

IMMUNITY

Susceptibility is universal, but the main incidence is mainly between 5 and 15 years, especially boys. Infants are rarely attacked. Adults are not immune. One attack protects.

TREATMENT

Rest in bed is enforced for 10 days at least and longer if the swelling persists. Orchitis has been reported to occur in 18 to 33 per cent. of cases during epidemics. It usually appears on the seventh or eighth day of illness, but in older patients it may be delayed two or three weeks.

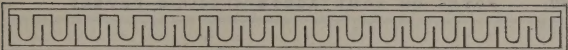
Rest reduces the incidence and lessens the severity of orchitis. Special care to enforce the rest strictly until the time has passed at which this complication usually appears is necessary in boys about the age of puberty or young adult males.

At the commencement of the illness a full dose of 'Tabloid' Calomel is prescribed with advantage. Frequent mouth-washes and swabbing at regular intervals with solutions of 'Soloid' (Nasal) Sodium Bicarbonate Compound, Saccharated, not only gives comfort to the patient but prevents sepsis and the spread of infection to the middle ear. Great relief is afforded by the application of 'Menthofax' on lint to the swollen parotid glands.

Should orchitis occur, hot fomentations wrung out of Opium Tincture or Belladonna Tincture usually alleviate the condition. Systematic administration of 'Tabloid' Aspirin throughout the illness is of great value, and morning doses of 'Tabloid' Magnesium Sulphate, Effervescent, should be given in combination with nightly doses of 'Tabloid' Calomel.

Convalescence should be assisted by giving 'Kepler' Cod Liver Oil with Malt Extract and Chemical Food (*Phosphates Compound*).

A list of products, with details of strengths and packings, will be found on pages 35-42



MEASLES

(MORBILLI)

INFECTION

In towns the attack-rate of measles is highest in the third, fourth and fifth years of life, while the death-rate is highest in the second year of life. After the age of five the death-rate is relatively small. These facts indicate the importance of postponing an attack of measles. The early infectiousness of measles while the symptoms are only those of a common "cold" is a noteworthy feature of the disease. It is not unlikely that the majority of the total cases are infected by contact with individuals in this early stage. Although measles is very infectious, its infection does not appear to be long-lived, and it is not commonly conveyed by healthy persons. It thus differs from scarlet fever and diphtheria. The mode of infection is by *direct contact*, especially during the early catarrhal stage—greatest two days before and five days after the rash. Infected articles, if *freshly* soiled with oral or nasal secretions, may carry the infection. The disease is never milk- or water-borne. Carriers have not been demonstrated.

ISOLATION

Infectivity is slight after the rash fades, but patients must be isolated for three weeks from the first appearance of the rash, and this period should be extended if there are complications or sequelæ.

QUARANTINE

Only those contacts need be placed in quarantine who have not had measles, although, in view of the great mortality amongst children

under five, it is desirable to assume the possibility of spread amongst younger children by healthy intermediaries. The period of exclusion and quarantine is three weeks from the date of last exposure to infection for those who have not had the disease, but all contacts, whether susceptible or not, must be excluded from association with children under five. Disinfection of rooms is not necessary after measles.

INCUBATION PERIOD

The incubation period from infection to the commencement of catarrhal symptoms is 12 to 14 days with fair constancy, but may be a few days less.

IMMUNITY

One attack protects. Susceptibility is universal and in civilised countries few escape past childhood.

TREATMENT

The patient should always be put to bed in the prodromal catarrhal stage and, in cases of known exposure, rest should be ordered on the slightest symptom suggesting measles. Bed should be maintained for five to seven days after the temperature has become steadily normal.

If the fever is high, 'Tabloid' Sodium Bromide is often effective in children. The irritating cough of the early stages is relieved by 'Tabloid' Camphor Compound Tincture. If the laryngitis and cough persist, inhalations of compound tincture of benzoin, together with an expectorant combination such as 'Tabloid' Ipecacuanha and 'Tabloid' Potassium Iodide, effect improvement.

Late laryngitis is often diphtheritic, and, on the slightest suspicion, a prophylactic dose of 'Wellcome' Diphtheria Antitoxin-Serum is given.

The eyes should be cleansed with a lotion of 'Soloid' Boric Acid night and morning. Should conjunctivitis be feared, a 5 per cent. solution of 'Soloid' Argyrol may be applied once or twice as a prophylactic. If conjunctivitis supervenes, the argyrol may be 10 per cent. or 20 per cent., and the pupils should be kept moderately dilated by the use of 'Tabloid' Ophthalmic Atropine Sulphate.

'Tabloid' Calomel or 'Tabloid' Grey Powder will be found useful, but especially so if diarrhoea becomes severe. Free stimulation is often desirable throughout the illness, and for this 'Tabloid' Hypophosphites Compound is invaluable.

Open-air treatment, with the addition of the full vitamin content of 'Kepler' Cod Liver Oil with Malt Extract to the diet in generous amounts, is an effective prophylactic against tubercular sequelæ.

A list of products, with details of strengths and packings, will be found on pages 35-42

RUBELLA

(GERMAN MEASLES)

INFECTION

The period of infectivity commences two or three days before the onset of symptoms. As in measles, disinfection after the occurrence of rubella is unnecessary.

Transmission is by direct contact and the disease is not spread by infected articles or intermediaries. A series of local outbreaks usually occurs, determined by the aggregation of a number of unprotected young adults.

ISOLATION

The infective period is short and seven days' isolation is all that is necessary.

QUARANTINE

Contacts who have not had the disease must be kept in quarantine for three weeks. Early warning of the imminence of an attack may be gained by carefully watching the mastoid and occipital glands.

INCUBATION PERIOD

The incubation period is long—5 to 21 days, usually 17 to 18 days.

IMMUNITY

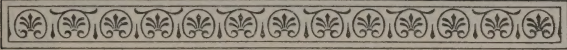
Some individuals may be insusceptible. The maximum incidence is at a later age-period than that of measles, but infants may be attacked. Susceptibility diminishes very greatly after 30. One attack usually protects and second attacks are rare.

TREATMENT

It is sufficient to keep the patient in bed while pyrexia persists and for a day or two after the rash disappears.

The administration of 'Tabloid' Aspirin for the first two or three days of the illness adds to the comfort of the patient. The bowels should be kept free by nightly doses of 'Tabloid' Calomel, followed by 'Tabloid' Magnesium Sulphate, Effervescent, in the morning. A course of 'Kepler' Cod Liver Oil with Malt Extract should be given on recovery.

A list of products, with details of strengths and packings, will be found on pages 35-42



CHICKEN-POX

INFECTION

Infection is by direct contact, by infected articles, by third persons, or by the air over short distances. Herpes zoster seems to be in some way connected with chicken-pox, and sometimes an eruption of herpes is, within 24 hours, followed by the typical rash of chicken-pox. In other cases an eruption which from its distribution is diagnosed as herpes has given rise in contacts, after an incubation period of 12 to 21 days, to undoubted chicken-pox.

ISOLATION

The patient should be isolated until the last crust has separated, and not for less than three weeks, although the average patient is not infectious for more than nine days.

QUARANTINE

Infants and children who have not had the disease must be kept in quarantine for at least 21 days from the date of last exposure to infection.

INCUBATION

The incubation period is variable—10 to 17 days, commonly 14 days, but rarely over 21 days.

IMMUNITY

One attack of the disease usually, but not invariably, protects. Insusceptibility is probably not uncommon.

TREATMENT

Rest in bed should be ordered, whether the temperature is raised or not, and every effort made to keep the vesicles unruptured. Allow the patient out of bed when the eruption has crusted.

Itching is sometimes troublesome, and sponging with a warm lotion of 'Soloid' Boric Acid will, in many cases, be found effective. In more severe cases a compress soaked in weak solution (1 in 100) of 'Soloid' Carbolic Acid may be used. Inflamed or ulcerated pocks need hot fomentations of a solution of 'Soloid' Boric Acid.

A liberal diet with stimulant treatment is necessary, and for this purpose 'Tabloid' Iron and Arsenic Compound may be given with 'Kepler' Cod Liver Oil with Malt Extract.

A list of products, with details of strengths and packings, will be found on pages 35-42

SPECIAL NOTICE

Attention is drawn to the wide range of Sera and Vaccines prepared at the Wellcome Physiological Research Laboratories. All of these products are British, being made in England under the supervision of a scientific staff with high technical qualifications. No bacterial therapeutic agent issued by Burroughs Wellcome & Co. has a foreign or indirect origin.

For list of products, see pages 39-42

PREPARATIONS

Adrenalin, B.P., Solution of, 'Wellcome' Brand—

Bottles of 10 c.c. and 25 c.c.

'Borofax' (Trade Mark) Brand Boric Acid Ointment—A protective, antiseptic and sedative dressing which never becomes rancid. Particularly effective in encouraging the healing of superficial injuries.

Collapsible tubes of two sizes

'Eucalyptia' (Trade Mark)—A pure volatile Oil of Eucalyptus, B.P.

Bottles containing two fluid ounces

HYPODERMIC PRODUCTS

'TABLOID' BRAND

(Trade Mark)

(Hypodermic) —

No.								
„ 139.*	Atropine Sulphate ..	..	..	..	..	..	gr. $\frac{1}{100}$	
„ 15.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{100}$	
„ 129.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{120}$	
„ 14.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{100}$	
„ 13.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{200}$	
„ 324.*	„ „ ..	..	..	..	..	..	0.0005 gm.	
„ 302.*	„ „ ..	..	..	..	..	..	0.001 gm.	
„ 66.*	Morphine Hydrochloride	..	..	..	..	..	gr. $\frac{1}{8}$	
„ 55.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{4}$	
„ 90.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{3}$	
„ 91.†	„ „ ..	..	..	..	..	..	gr. $\frac{1}{2}$	
„ 336.*	„ „ ..	..	..	..	..	..	0.005 gm.	
„ 309.*	„ „ ..	..	..	..	..	..	0.01 gm.	
„ 310.*	„ „ ..	..	..	..	..	..	0.015 gm.	
„ 311.*	„ „ ..	..	..	..	..	..	0.02 gm.	
„ 337.†	„ „ ..	..	..	..	..	..	0.03 gm.	
„ 18.*	Strychnine Sulphate	..	..	..	..	..	gr. $\frac{1}{100}$	
„ 17.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{100}$	
„ 16.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{200}$	
„ 104.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{50}$	
„ 99.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{40}$	
„ 75.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{30}$	
„ 123.*	„ „ ..	..	..	..	..	..	gr. $\frac{1}{20}$	

* Tubes of 20

† Tubes of 12

TRADE
MARK

'HYPOLOID' BRAND PRODUCTS

'HYPOLOID' BRAND—

- No. 516. Camphor, 0.1 gm. [gr. 1-1/2 approx.]. Solution in Olive Oil.
 „ 542. „ 0.2 gm. [gr. 3 approx.] „ „ „

Each strength in boxes of 10

- „ 567. Ephedrine Hydrochloride, 0.03 gm. [gr. 1/2 approx.].

Boxes of 10

Preparations—(continued)

OPHTHALMIC PRODUCTS

'TABLOID' BRAND

(Ophthalmic)—

" X*	Atropine Sulphate	..	..	..	..	..	gr. $\frac{1}{800}$
" A*	"	"	..	..	..	..	gr. $\frac{1}{300}$
" LL*	"	"	..	..	..	..	0.0003 gm.
" MM†	"	"	..	..	..	..	0.003 gm.
	" * Tubes of 25				† Tubes of 12		

TRADE
MARK

'KEPLER' MALT PRODUCTS

'KEPLER' MALT EXTRACT

Bottles of two sizes

'KEPLER' COD LIVER OIL WITH MALT EXTRACT

Bottles of two sizes

'KEPLER' COD LIVER OIL WITH MALT EXTRACT AND CHEMICAL FOOD (Phosphates Compound)

Each fluid ounce contains: Iron Phosphate, gr. 2; Calcium Phosphate, gr. 3; Sodium Phosphate, gr. $\frac{1}{4}$; and Potassium Phosphate, gr. $\frac{1}{4}$.*Bottles of one size*

'Menthofax' Brand Compound Methyl Salicylate Ointment, B.P.C.

*(Trade Mark)**Collapsible tubes*'Paroleine' Brand Liquid Paraffin.—An odourless, colourless, tasteless
(Trade Mark) and perfectly stable oil.*Bottles containing 4 fl. oz. and 1 lb. (18½ fl. oz.)*TRADE
MARK

'SOLOID' BRAND PRODUCTS

'SOLOID' BRAND—

Supplied in
botts. of botts. of

"	Argyrol, gr. 1, tubes of 12	..	..	..	..	—	—
"	" gr. 5.45 " 6	..	..	..	..	—	—
"	Boric Acid, gr. 15 (<i>Unscented</i>)	..	..	..	..	50	—
"	Carbolic Acid (Phenol), gr. 5, tubes of 25	..	..	..	..	—	—
"	" " " gr. 20 " 12	..	..	..	..	—	—
"	" " " gr. 60 " 6	..	..	..	..	—	—
"	" " " 1 gm. " 10	..	..	..	..	—	—
"	Phenol Compound (Nasal)	..	..	..	..	25	—
	℞ Sodii Bicarbonatis,	gr. 12	[0.778 gm.]				
	Acidi Carbolic,	gr. 1-1/2	[0.097 gm.]				
	Sodii Chloridi,	gr. 2	[0.13 gm.]				
"	Sodium Bicarbonate Compound (Nasal)	..	..	..	..	25	100
	℞ Sodii Bicarbonatis,	gr. 5	[0.324 gm.]				
	Boracis,	gr. 5	[0.324 gm.]				
	Sodii Chloridi,	gr. 5	[0.324 gm.]				
"	Saline Compound, tubes of 12	..	..	..	..	—	—
	℞ Calcii Chloridi,	gr. 7/10	[0.045 gm.]				
	Potassii Chloridi,	gr. 7/10	[0.045 gm.]				
	Sodii Chloridi,	gr. 3-1/2	[2.04 gm.]				
	Sodii Bicarbonatis,	gr. 7/20	[0.023 gm.]				
	Dextrosi,	gr. 3-1/2	[0.227 gm.]				
"	Saline Compound, No. 2, tubes of 12	..	..	..	..	—	—
	℞ Calcii Chloridi,	0.05 gramme					
	Potassii Chloridi,	0.05 gramme					
	Sodii Chloridi,	2.25 gramme					
	Sodii Bicarbonatis,	0.025 gramme					
	Dextrosi,	0.25 gramme					
"	Sodium Bicarbonate, gr. 44	..	..	..	..	25	—
"	Sodium Chloride, gr. 40, tubes of 12	..	..	..	..	—	—
"	" " gr. 80 " 6	..	..	..	..	—	—
"	" " 0.23 gm. " 12	..	..	..	..	—	—

Preparations—(continued)

TRADE MARK 'TABLOID' BRAND PRODUCTS						Supplied in	
'TABLOID' BRAND—						bots. of	bots. of
„	†	Antipyrine (Phenazone), gr. 2½	..	..	..	25	100
„	†	„ „ gr. 5	..	..	..	25	100
„	†	„ „ 0.25 gm.	..	..	..	25	100
„	†	„ „ 0.5 gm.	..	..	..	25	100
„	†	Aspirin, gr. 5 ..	..	..	..	25	100
„	†	„ 0.5 gm.	..	..	..	25	100
„	†	Belladonna Tincture, min. 1	..	..	..	—	100
„	†	„ „ min. 5	..	..	..	—	100
„	†	Benzo-naphthol, gr. 5	..	..	..	—	100
„	†	Beta-naphthol, gr. 3 ..	..	..	..	—	100
„	†	Calomel, gr. 1/20	..	..	..	—	100
„	†	„ gr. 1/10	..	..	..	—	100
„	†	„ gr. 1/6	..	..	..	—	100
„	†	„ gr. ¼	..	..	..	—	100
„	†	„ gr. ½	..	..	..	—	100
„	†	„ gr. 1	..	..	..	—	100
„	†	„ gr. 2	..	..	..	—	100
„	†	„ gr. 3	..	..	..	—	100
„	†	„ gr. 5	..	..	..	—	100
„	†	„ 0.005 gm.	..	..	..	—	100
„	†	„ 0.01 gm.	..	..	..	—	100
„	†	„ 0.1 gm.	..	..	..	—	100
„		Camphor Compound Tincture (Paregoric), (gelatin-coated), min. 5	..	..	..	—	100
„		„ „ „ min. 15	..	..	..	—	100
„	†	Chloral Hydrate, gr. 5	..	..	..	—	100
„	†	„ „ gr. 10	..	..	..	—	100
„	†	Dover Powder, gr. ¼ ..	..	..	..	—	100
„	§	„ „ gr. 5 ..	..	..	..	25	100
„	†	„ „ 0.25 gm.	..	..	..	25	100
„	*	Easton Syrup, dr. 1/2	..	..	..	25	100
„	*	„ „ dr. 1 ..	..	..	..	25	100
„	*	„ „ 2 C.C. ..	..	..	..	25	100
„	*	„ „ 4 C.C. ..	..	..	..	25	100
Presents the amount of Iron, Quinine and Strychnine contained in corresponding doses of Easton Syrup.							
„	†	'Empirin' Compound	..	..	..	25	100
(Trade Mark)							
R _x 'Empirin,'		gr. 3-1/2	[0.227 gm.]				
Phenacetini,		gr. 2-1/2	[0.162 gm.]				
Caffeinæ,		gr. 1/2	[0.032 gm.]				
„	†	Ephedrine Hydrochloride, gr. ½, tubes of 6	..	..	..	25	100
(See also 'Hypoloid,' page 35)							
„	†	Grey Powder, gr. ¼	..	..	..	—	100
„	†	„ „ gr. ½	..	..	..	—	100
„	†	„ „ gr. ¾	..	..	..	—	100
„	†	„ „ gr. 1	..	..	..	—	100
„	†	„ „ gr. 2	..	..	..	—	100
„	†	„ „ gr. 3	..	..	..	—	100
„	†	„ „ gr. 5	..	..	..	—	100
„	†	„ „ 0.15 gm.	..	..	..	—	100
„	†	Guaiacol Carbonate, gr. 5	..	..	..	25	100
„	†	„ „ 0.3 gm.	..	..	..	25	100
„	§	Hypophosphites Compound, gr. 1½ (= dr. ½ of Syrup)	..	..	..	25	100
„	§	„ „ „ gr. 3 (= dr. 1 of Syrup)	..	..	..	25	100
„	*	„ „ „ 0.1 gm.	..	..	..	25	100
„	*	„ „ „ 0.2 gm.	..	..	..	25	100

* Sugar-coated

† Plain

§ Sugar-coated or plain

Preparations—(continued)

'TABLOID' BRAND—

						Supplied in	
						bots. of	bots. of
„	†	Ipecacuanha Powder, gr. 5	..	..	..	—	100
„	„	„ gr. 5 (<i>keratin-coated</i>)	..	..	..	—	100
„	†	Ipecacuanha deprived of its Emetic Principles, gr. 5	..	..	..	—	100
„	§	Ipecacuanha with Squill (<i>B.P. Pill</i>), gr. 4	..	..	..	—	100
„	§	Iron and Arsenic Compound	..	..	..	—	100
	R	Ferri Hypophosphitis,	gr. 2	[0.13 gm.]			
		Quininae Sulphatis,	gr. 1	[0.065 gm.]			
		Acidi Arseniosi,	gr. 1/50	[0.0013 gm.]			
		Strychninae Sulphatis,	gr. 1/50	[0.0013 gm.]			
„	§	Iron and Quinine Citrate, B.P., gr. 3	..	..	..	25	100
„	†	Jalap, gr. 5	..	..	..	—	100
„	†	Magnesium Sulphate, Effervescent, B.P., gr. 60,	..	..	..	—	—
		tubes of 25					
„	†	Opium Tincture, B.P. (Laudanum), min. 5	..	..	..	—	100
„	†	„ „ „ min. 10	..	..	..	—	100
„	†	„ „ „ (1 in 10), 0.2 gm.	..	..	..	—	100
„	†	Phenacetin, gr. 1	..	..	..	25	100
„	†	„ gr. 5	..	..	..	25	100
„	†	„ 0.1 gm.	..	..	..	25	100
„	†	„ 0.25 gm.	..	..	..	25	100
„	†	„ 0.5 gm.	..	..	..	25	100
„	†	Potassium Iodide, gr. 1 (<i>prepared with a demulcent base</i>)	..	..	..	—	100
„	†	„ „ gr. 3	..	..	..	—	100
„	†	„ „ gr. 5	..	..	..	—	100
„	†	„ „ 0.1 gm.	..	..	..	—	100
„	†	„ „ 0.5 gm.	..	..	..	—	100
„	§	Quinine Bisulphate, gr. 1/2	..	..	..	25	100
„	„	„ gr. 1	..	..	..	25	100
„	„	„ gr. 2	..	..	..	25	100
„	„	„ gr. 3	..	..	..	25	100
„	„	„ gr. 4	..	..	..	25	100
„	„	„ gr. 5	..	..	..	25	100
„	†	„ gr. 10	..	..	..	25	100
„	„	„ 0.1 gm.	..	..	..	25	100
„	„	„ 0.25 gm.	..	..	..	25	100
„	†	„ 0.5 gm.	..	..	..	25	100
„	†	Reduced Iron Compound	..	..	..	25	100
	R	Ferri Redacti,	gr. 2	[0.13 gm.]			
		Ext. Hyoscyami Viridis, P.B., 1898,	gr. 1	[0.065 gm.]			
		Ext. Nucis Vomicae,	gr. 1/2	[0.032 gm.]			
		Olei Carui,	min. 1/4	[0.015 c.c.]			
„	†	Reduced Iron and Rhubarb Compound	..	..	..	25	100
	R	Ferri Redacti,	gr. 2	[0.13 gm.]			
		Ext. Hyoscyami Viridis, P.B., 1898,	gr. 1	[0.065 gm.]			
		Ext. Nucis Vomicae,	gr. 1/2	[0.032 gm.]			
		Pil. Rhei Comp.,	gr. 1	[0.065 gm.]			
		Olei Carui,	min. 1/4	[0.015 c.c.]			
„	†	Salol, gr. 5	..	..	..	25	100
„	†	„ 0.5 gm.	..	..	..	25	100
„	†	Sodium Bromide, gr. 5	..	..	..	—	100
„	†	„ gr. 10	..	..	..	—	100
„	†	„ 0.5 gm.	..	..	..	25	—
„	†	„ 1 gm.	..	..	..	25	—
„	†	Veronal, gr. 5	..	..	..	25	100
„	†	„ 0.5 gm.	..	..	..	25	—

† Plain

§ Sugar-coated or plain

Preparations—(continued)

SERA AND VACCINES, TRADE MARK 'WELLCOME' BRAND

SPECIAL NOTES

- (1) All 'Wellcome' Brand Sera and Vaccines are British—they are prepared at the Wellcome Physiological Research Laboratories, Beckenham, Kent, England, and are issued by Burroughs Wellcome & Co..
- (2) All 'Wellcome' Brand Sera and Vaccines conform with the regulations of the Therapeutic Substances Act, 1925.

SERA, TRADE MARK 'WELLCOME' BRAND*Hermetically-sealed phials*

'WELLCOME' BRAND—

,, Diphtheria Antitoxin-Serum—

Phials containing 500 Ehrlich units

,, " 1000 " "

,, " 2000† " "

,, " 3000† " "

,, " 4000† " "

† 1000 units are contained in 2.5 c.c. or less

,, Concentrated Diphtheria Antitoxin-Globulins§—

Phials containing 1000 Ehrlich units

,, " 2000 " "

,, " 3000 " "

,, " 4000 " "

,, " 5000 " "

,, " 6000 " "

,, " 8000 " "

§ 1000 units are contained in 1 c.c. or less

Phials containing 10,000 Ehrlich units (*High Potency*)

2000 units are contained in 1 c.c. or less

,, Concentrated Scarlet Fever Antitoxin-Globulins—

Phials containing 10 c.c.

,, Anti-typhoid Serum—

Phials containing 25 c.c.

,, Normal Horse Serum, No. 1—

Phials containing 10 c.c.

,, " 25 C.C.

Preparations—(continued)

SEROLOGICAL PRODUCTS

TRADE MARK 'WELLCOME' BRAND

Sera

(For Agglutination Tests against the following organism)

'WELLCOME' BRAND—

„ *B. typhosus*, in 1 c.c. containers

Suspensions

(For Agglutination Tests of the following organism)

'WELLCOME' BRAND—

„ *B. typhosus*, in 1 c.c. containers

†Supplied in 10 c.c. containers to special order

Schick Test Products

'WELLCOME' BRAND—

„ Diluted Toxin (Test) and Heated Toxin (Control)—

1 c.c. Sets (Control and Diluted Toxin). Hermetically-sealed phials

5 c.c. Sets (Control and Diluted Toxin). Hermetically-sealed phials

„ Capillary Sets (Control and Undiluted Toxin)

Dick Test Products

'WELLCOME' BRAND—

„ Diluted Scarlet Fever Toxin (Test) and Heated Scarlet Fever Toxin (Control)—

1 c.c. Sets (Test and Control). Rubber-stoppered bottles

5 c.c. Sets (Test and Control). Rubber-stoppered bottles

Schultz-Charlton Blanching Test

'WELLCOME' BRAND—

„ Schultz-Charlton Test Solution—

Rubber-stoppered bottles of 1 c.c.

„ „ „ „ 5 c.c.

Preparations—(continued)

Serological Products—(continued)

For Diphtheria Prophylaxis

'WELLCOME' BRAND—

- „ Diphtheria Prophylactic M.T. Toxoid.
Rubber-stoppered bottles of 1 c.c.,
10 c.c. and 25 c.c.
- „ Diphtheria Prophylactic T.A.M. (Toxoid-Antitoxin Mixture for Active
Immunisation). Rubber-stoppered bottles of 1 c.c.
- „ Diphtheria Prophylactic T.A.M. (Toxoid-Antitoxin Mixture for Active
Immunisation). Rubber-stoppered bottles of 10 c.c.
- „ Diphtheria Prophylactic T.A.M. (Toxoid-Antitoxin Mixture for Active
Immunisation). Rubber-stoppered bottles of 25 c.c.

For Scarlet Fever Prophylaxis

'WELLCOME' BRAND—

- „ Scarlet Fever Prophylactic (A)
Rubber-stoppered bottles of 1 c.c., 10 c.c. and 25 c.c.
- „ Scarlet Fever Prophylactic (B)
Rubber-stoppered bottles of 1 c.c., 10 c.c. and 25 c.c.

VACCINES, TRADE MARK 'WELLCOME' BRAND*Hermetically-sealed phials*

'WELLCOME' BRAND—

„ Anti-typhoid Vaccine

1 c.c. containing		500 million organisms		
10 c.c.	„	500	„	„ in each c.c.
25 c.c.	„	500	„	„ „
1 c.c.	„	1000	„	„
10 c.c.	„	1000	„	„ in each c.c.
25 c.c.	„	1000	„	„ „

„ Anti-typhoid-paratyphoid Vaccine (T.A.B.), No. 1 a

1 c.c. containing 500 million *B. typhosus*, and 375 million each of
B. paratyphosus A and *B. paratyphosus* B

|| 10 c.c. containing 500 million *B. typhosus*, and 375 million each of
B. paratyphosus A and *B. paratyphosus* B, in each c.c.

|| 25 c.c. containing 500 million *B. typhosus* and 375 million each of
B. paratyphosus A and *B. paratyphosus* B, in each c.c.

„ Anti-typhoid-paratyphoid Vaccine (T.A.B.), No. 1 b

1 c.c. containing 1000 million *B. typhosus*, and 750 million each of
B. paratyphosus A and *B. paratyphosus* B

|| 10 c.c. containing 1000 million *B. typhosus*, and 750 million each of
B. paratyphosus A and *B. paratyphosus* B, in each c.c.

|| 25 c.c. containing 1000 million *B. typhosus*, and 750 million each of
B. paratyphosus A and *B. paratyphosus* B, in each c.c.

|| Rubber-capped bottles

Preparations—(continued)

Vaccines—(continued)

'WELLCOME' BRAND—

,, Anti-typhoid-paratyphoid-cholera Vaccine (T.A.B.C.), No. 2 a

1 c.c. containing 500 million *B. typhosus*, 375 million each of *B. paratyphosus* A and *B. paratyphosus* B, and 5000 million *V. cholerae* (= 2 mgm.)

|| 10 c.c. containing 500 million *B. typhosus*, 375 million each of *B. paratyphosus* A and *B. paratyphosus* B, and 5000 million *V. cholerae* (= 2 mgm.), in each c.c.

|| 25 c.c. containing 500 million *B. typhosus*, 375 million each of *B. paratyphosus* A and *B. paratyphosus* B, and 5000 million *V. cholerae* (= 2 mgm.), in each c.c.

,, Anti-typhoid-paratyphoid-cholera Vaccine (T.A.B.C.), No. 2 b

1 c.c. containing 1000 million *B. typhosus*, 750 million each of *B. paratyphosus* A and *B. paratyphosus* B, and 10,000 million *V. cholerae* (= 4 mgm.)

|| 10 c.c. containing 1000 million *B. typhosus*, 750 million each of *B. paratyphosus* A and *B. paratyphosus* B, and 10,000 million *V. cholerae* (= 4 mgm.), in each c.c.

|| 25 c.c. containing 1000 million *B. typhosus*, 750 million each of *B. paratyphosus* A and *B. paratyphosus* B, and 10,000 million *V. cholerae* (= 4 mgm.), in each c.c.

.. || Rubber-capped bottles

TRADE MARK 'VAPOROLE' BRAND PRODUCTS

'VAPOROLE' BRAND—

,, Chloroform and Ethyl Iodide Compound

R Chloroformi,	min. 10	[0.592 c.c.]
Ethyl Iodidi,	min. 5	[0.296 c.c.]
Menthol,	gr. 1/8	[0.008 gm.]

Boxes of 6



BURROUGHS WELLCOME & CO., LONDON

THE WELLCOME FOUNDATION LTD.

(GOVERNING DIRECTOR—HENRY S. WELLCOME DEPUTY-GOVERNING DIRECTOR—GEO. E. PEARSON)
(BRITISH—FORMERLY U.S.A.)

Associated Houses:

NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN
BOMBAY SHANGHAI BUENOS AIRES

THE SCHICK TEST

(*Explanation of Plate on page 3 of cover*)

The test is carried out by injecting into the left arm 0.2 c.c. of standardised diluted diphtheria toxin; into the right arm is injected, as a control, the same amount of diluted toxin which has been heated.

The injection is made most conveniently with a very fine needle, into the superficial layer of the skin of the forearm. The needle is inserted intracutaneously and not subcutaneously. To ensure this, it is held practically parallel with the skin surface before insertion and not at an angle of about 45° , as in hypodermic injection. When the point has penetrated about one-eighth or less of an inch, the whole portion inserted should be visible through the skin as a dark bluish line. If the needle is inserted properly it will be found that considerable force has to be executed to drive the plunger of the syringe. When the injection has been made, a white circumscribed wheal, about half-an-inch in diameter, should be visible. The pain involved is negligible.

THE REACTION

In about 90 per cent. of instances, when testing healthy children, the result may be read after 24 hours, but the reactions are more easily read on or after the third day.

(1) *Negative Reaction (Immune)*. Both arms may show, after 24 hours, nothing except a spot where the needle was inserted, or perhaps a very small faint pink coloration, which will disappear entirely by the second day. This is a "completely negative" reaction, and indicates that the patient's

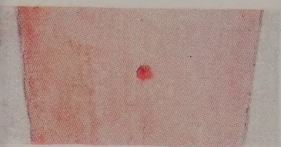
blood contains a definite amount of antitoxin, and that he is "immune" to diphtheria. The important point is that even if a slight reaction is present, it is equal in both arms.

(2) *Positive Reaction (Susceptible)*. The right arm may show an absence of reaction, as described above, while the left arm has a flush, from one half to one inch or more in diameter. This lasts for some days, gradually fading into a brown discoloration on which small scales may appear. This is a "clear positive" reaction, and indicates that the patient is not immune against diphtheria. Occasionally, the positive reaction does not make its appearance until the third day.

(3) *Negative and Pseudo-Reaction (Immune)*. Both arms may show the same sized pink flush with darker red centre. This false, or pseudo-, reaction is due to the presence of some unknown constituent in the toxin broth. The patient who shows, therefore, an equal or practically equal reaction in both arms is "immune."

(4) *Positive and Pseudo (Combined) Reaction (Susceptible)*. The right arm, which received the heated control toxin, may show a persistent red flush with a deeper centre, while the left arm, which received the unheated toxin, may show a very large flush with a large dark red centre, which later desquamates. This indicates that the toxin in the left arm has given a positive reaction, and that there is, in addition, in both arms a pseudo-reaction. The susceptibility of the patient in this case is shown by the greater extent and intensity of the reaction in the left arm. These reactions are rare.

THE SCHICK TEST



Control

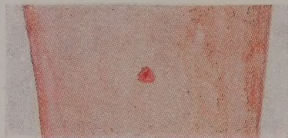


Fig. 1 Negative Reaction (Immune)



Control

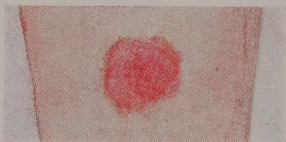
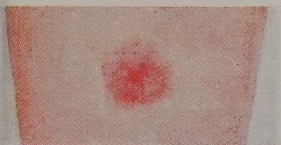


Fig. 2. Positive Reaction (Susceptible)



Control

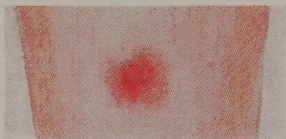
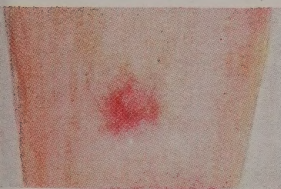


Fig. 3. Negative and Positive Reaction (Immune)



Control

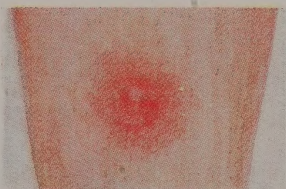
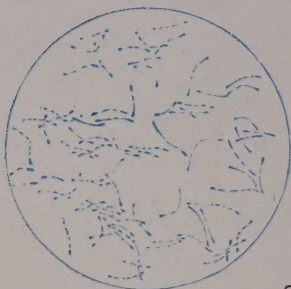


Fig. 4. Positive and Pseudo (Combined) Reaction (Susceptible)

DIPHTHERIA



BACILLUS DIPHTHERIÆ

Stained with
'Soloid' Methylene Blue

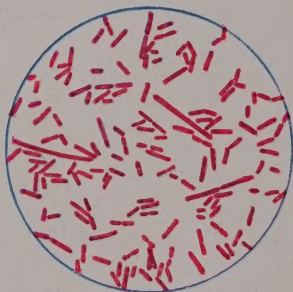
SCARLET FEVER

STREPTOCOCCUS OF
SCARLET FEVER

Stained with
'Soloid' Gram Iodine Solution



TYPHOID FEVER



BACILLUS TYPHOSUS

from a young culture

Stained with
'Soloid' Fuchsine (Basic)

REPRODUCTION IN NATURAL COLOURS OF
PHOTO-MICROGRAPHS STAINED WITH 'SOLOID'
MICROSCOPIC STAINS